**Aviation Week** 

and Space Technology

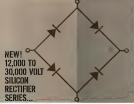
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June 27, 1960

SPECIAL REPORT:

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Components for RVX

ANATION WESt, June 27, 1510



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- \* Flush Fracture (No Stem Trimming)
  - Strong Clinch
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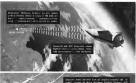
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## Liners of KEL-F for ball joints... FUEL-PROOF and WEAR-RESISTANT

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Because cold cur't shatter it ... beat cur't melt stunds a temperature runs of "TXC P to +425° F. In addition, its excellent flex/hillity and KEL-F Photo is ideally saided for mean uses in

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Micromodule Laboratory Kit

## COMPLETE KIT

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Engineers — Investigate career opportunities at Painchéid

DEFENSE PRODUCTS DIVISION
Robbins Lane. Sysset, L. I., N. Y.

## Normalizing Alloy Steels

resilment commonly employed in the precessing of alloy steels. Each into so any medities the mechanical properties and structures of seed, and each is chosen with a defirite objective in small The free small forms of treatment are somalities, annualing, spheroidies, are stress-relief, and stress-relief, opensiling, and stress-relief, and stress-relief ing.

In this orientatis discussion, let

us consider briefly the purposes and effects of normalizing. Normalizing is an operation in

which the steel is bented to appreciately 100 GeF p above the upper transferrantism range, then coded in stell or against dir. The basic purpose is to refine the prior structure preciated by variations in fisishing temperatures reconstruct in realizing from normalizing, being reconstruction, will help carata improved mechanical properties when the stell is subsequently reheated,

the steel in subsequently reheated, liquid quenched, and tempered. There are times when large steel parts (heavy forgings, for example) cannot be flyidid-quenched because of their size. In cases of this nature, the heat persurear must consist, and single or multiple accumulating fol-

lowed by tempering.

High-temperature normalizing is

low-crobe alby strals as percent such matrix. It is the temperature necessitize, send is heated to more than 100 deg. F above the upper transferantion range.) At times it is possible to machina a steel in the air-coold confilien, the governing factor bring the alby content. However, the highly albyed analyses may require attracting or temperating after morralizing, to decrease the

It is essential, when normalizing is employed, that free circulation of still or agitated air he provided. When air-cooling of individual bars or forgings is not practicable, the furnace charge should provide for some means of separation, such as

furnace charge should provide for some reasm of separation, such as racks or spacers.

If you would care to know more about normalising, or any other

to give you any help you need.

And remember that Bethichem
makes the full range of AISI standand alloy steels, as well as special-

This arries of alloy atool odicervorments is now evolubile as a compact backlet, "Cavite Pacts about Alloy Sooks". If you would like a free copy please odders your request to Publications Department, Ballichem Sool Generaley, Ballichem, Pa.



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# Knowmanship scoring breakthroughs in solid-state electronics



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#### complex jet engine componentry

This complete jet forbus wheel is a product of Kelany-Bayes, Jackson, Michigan plant. Its high steedards of performance reflect Kelany-Huyes' capabilities.

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As a major settentividor to the invessions initiatines, Natiney-Hayes sepatrities also indust the production of virsion seduction method alloys, as well as design, development and production of advanced threat sectioning devices.

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...center for missile and space technology research MISSILE AND SPACE and development at General Electric

# Progress in defining space trajectories

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Scientists and Engineers interested in corner approximities in Spone Technology, contact Mp. T. M. Galerina. James 180. MICVS

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## **Aviation Week** Space Technology

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#### FDITORIAL

#### National Defense as an Issue the national defense rephlers in a critical impropertured

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-Robert Hotz

## On the new J85 Jet Engine: Lightweight, dependable Kidde high-temperature actuators!



In order to move the variable exit nossie on the afterturner of the J85 engine, G.R. uses three lightweight E55de ball series actuators, similar to the unit shown above. Each actuator employs shall series mechanism that weights only 0.6 pounds and has a shirt dismetter of 45 inch.

The Kidds ball rever actuator shows on exery leads up to 1.600 points and can operate actinations just a superscharm grape of trem— $6.5^\circ$   $1.0^\circ$  1.600 points and can operate continuously in a superscharm grape of trem— $6.5^\circ$   $1.0^\circ$  1.600 points temperature, these nechanical hall stress are more elitable than electrical protections and the registration of the 6.00 points and 6.00 points are superscharmed by the protection canding for the registration some of the 6.00 points of the 6.00 points 6.00 points are superscharmed and the registrations are an a thrust reverse, glasheding redect or just engage the superscharmed 6.00 points are superscharmed and 6.00 points 6.00



## Kidde Aero-Space Division

Widter Kridde & Company, Inc., 608 Main St., Belleville B, N. J.

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## INDUSTRY OBSERVER

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## Washington Roundup

Stable Defense Budget

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AVAILON WEBS, June 27, 1760

-Winbegton Stoff

## Transit Applies Dual Satellite Technique

Smaller subcre senarated from navigation test vehicles wide use of new method seen in space program. By J. S. Butz, Iv

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## House Group Urges Bigger Lunar Effort

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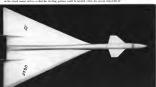
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## First Photos of B-70 Model Show Design Features for

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## Mach 3 Cruise

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## Navy Plans to Install Asroc on 150 Ships

By Edward H. Kolema Corpled with a sense detection on face sleeps with a solid peopellant

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ANATION WITH, Aug 27, 1990



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AVEATION WEEK June 27, 1700

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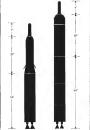
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News Digest

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AVAILON WIRE June 27, 1560

#### AIR TRANSPORT

## Capital Bids to Hold Stockholder Support

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AVEATION WATER THAN 27, 1940

## Eastern, Pan Am Pilots End Strike: Ouestion of Punishment Still Open

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#### Improper Control Cited in 707 Crash

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CAB Appoints Gough Safety Bureau Chief





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## Airline Passenger Fares Increase; Local Airline Rate of Return Set

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"Here of Petrick Henry Airport, we have a safety record accord to none, And a lot of the credit

PORTLAND CEMENT ASSOCIATION

night or in a fog, a light-colored concrete runway widelity."

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## 1960 Atlantic Travel May Near 2 Million

By Glenn Corrion On the look of words to date and DC/IC and of charter work and mother

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Sir Matthew Slattery To Head BOAC Board

Airline Officers Salaries Filed With CAB

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Altison Prop Jet Convair certificated for commercial service by Federal Aristics Agency
The Allison Prop-Jet Convair met or exceeded all requirements by the FAA as well as guarantees by
Altison during the greeling tests for certification.

This jet-age aircraft with time-proven power plants and airframe gives airline and corporate operators:

350-mph cruising speeds

3,000 fpm rate of climb at sea level

53,200 pounds maximum take off weight

50,670 pounds maximum landing weight (over 2 lars mere than pidge Convair 340%)

4,180 feet of runway required for maximum take-off weight

up to 30% aster block speeds than piston Convairs

Lake Central Airtines has codered 5 of these monty six-miles-a-minute Allinon Prop-Jet Convairs

— with an option for 10 more—and will introduce them thus year, bringing six passengers the fastest
achedised Local Service in America.

Six air-minded companies have ordered corporate versions and soon will speed their busy executives at jet-age speeds aeroes the country in Allinea Prop-let Convairs.

Want to know more about thin best bray of the jet-upe? Then call or write us on your letterfound. Our Sales Engineering team will prove to you the economic and timenoving features of the Allicon Prop-Jet Convoir.









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Moscow Now Has Second International Airport





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#### SHORTLINES

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ANNARON WEEK, Jane 27, 1949

Your recent letter to the company has been brought to my attention. I am particularly interested

I am in the fifth grade

KAMAN

PART

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keep your desire to make a career in aviation. In my opinion it is for the young men of America. The helicopter industry, and aviation in

general, is helping to keep our country strong and we look forward to the help that boys like you can give when your time comes. The backbone of the aircraft industry is the engineer We will always need good engineers with that vision now. Please keep it. mother's support when you are ready to take your place among the other young men who are playing a vital role in a vital industry.

Charles II Kamer

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#### MARQUARDT PAT-C\* SYSTEM MAKES POSSIBLE PRECISION SPACE CONTROL

New control gives 3500 to 1 modulation and .001 pound-seconds impulse

Orbit correction, station becaping and attitude control of a 50-hour nerwillance attibite which must orbit in a fixed position 24,000 miles above a predistremently point on carril, in but one unique application of PAP-C-position, attitude, trajectory control system—a development of The Marquintel Corporational Controls and

The PAT distants is a habity supposite yell resolution control which controls the flight publi, the perition and stitlade of a space victoria can be read of a statement light and the perition and stitlade of the perition of the periting of the perition of the perition of the perition of the periting o

Shown in photograph below - Marquerell enginera discuss a full scala mock-up of a complete self-contained PAT-C unit deeated for explication to except whicks 0.601 pound seconds. In the offittede central mode, the PAT system can insurian pointing securacies and possible with either systems due to its less propellent consumption in intirit cycle operation. In a typical case, an accuracy of 0.1 accords

opment and production has resulted in state-of-ort advancements in a wate range of electronic, electro-mechanical, passumile and hydratic controls and accomeries. For example, a passuratic servo actiontor is now available for 1900°P survey, and server

For additional information concerning the PAT-C System or other C & A empaldition, contact Dick Oblinger, Chief Applications Engineer-Controls and Accessories, The Marquardt Corporation.

Engineers and Sesselists experienced in these or related piels will first it researching to discuss their earcer justices with Meroposelis Pounded in 1844, Meroposelists as kee a staff of 5,000—line and of three are preferanced people. The company's greath for a possibil to the etcoophers of their hard extended enter the first between



# ASTRO + COOPER ENTERON CONTROL DESIGNATION ASTRO + COOPER ENTERONETH CONTROL + COOPER DEVISION + POWERS ENTERON ORDUP

\*POSITION-ATTITUDE-TRAJECTO: Y COMPREL SHO



Looking for a subcombactor with real serve "savey"?

... THEN TAKE A GOOD CLOSE LOOK AT THE SERVO COMPONENTS DISPLAYED HERE

As a subcontractor, CDCO is equipped to headle specifications freshry to 5 BMS. Most of the sergomerhouses system correc-Birth-precision susage help? Other ensured Arrang the "tools" of CECO's serve trade are

Components, assumbles and complete sub-

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CHANDLER EVANS CORPORATION - WEST HARTCORD I, COMMERCIAL

#### SPACE TECHNOLOGY

## Extra Power Increases Saturn Reliability By L. S. Betz

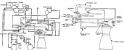
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AMADON WEEK, June 27, 1948

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AVIATION WEEK, June 27, 1960



will soon make a "rough" landing on the Moon. It will be carried by a larger spacecraft to a location about 25-miles from the Moon's surface, then released. A retro-rocket will cushion its impact. The Lunar Capsule will transmit vital scientific data back to Earth for a month or more. This unique space vehicle will be the product. of Ford Motor Company's Aeronatronic Division.

THIS LUNAR CAPSULE. now under development for NASA's Jet Propoleion Laboratory, is one of many space-oriented programa now under way at Aeronutronie Division of Ford Motor Company.

These programs-and many others related to advanced must non-contents and computer systems -- are being carried out at Association of amiliarities dellar Engineering and Research Center. in Newport Beach, California. They emphasize Ford's rapidly growing role in meeting the needs of science and defense in the Space Ave.

A booklet describing Accompanying's accomplishments and capabilities is available to you on request.

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## Scientists Study Space Pilot Automation

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#### MANAGEMENT

## Vega Study Shows Early NASA Problems

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#### Electronics Spending Forecast for 1970

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## U.S. Navy 'Skyhook' Balloon Studies Cosmic Rays



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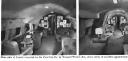
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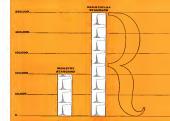
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